# Service Manual

**74 SM80/02B/02G**

**Stereo Power Amplifier**

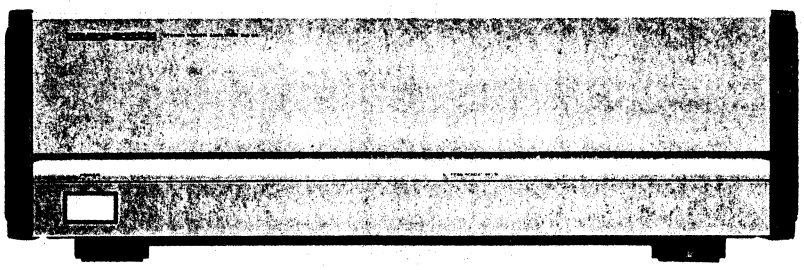


TABLE OF CONTENTS


| SECTION | | PAGE |
|---|---|---|
| 1. | BLOCK DIAGRAM | 1 |
| 2. | SCHEMATIC DIAGRAM AND PARTS LOCATION (Pattern Side) | 2 |
| 3. | EXPLODED VIEW AND PARTS LIST | 10 |
| 4. | TEST EQUIPMENT REQUIRED FOR SERVICING | 12 |
| 5. | IDLING CURRENT ADJUSTMENT | 12 |
| 6. | ELECTRICAL PARTS LIST | 13 |


marantz®

# model SM-80


First issue: 1990

4822 725 50921

## MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound.
Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available to our National Marantz Subsidiary or Agent.


MARANTZ INTERNATIONAL
Vestdijk 9
5600 MD Eindhoven
The Netherlands
Phone: +31/40.758290
Telefax: +31/40.75.82.99
Telex: 35000 PHTC NL routing IND NLMTFAT


### ORDERING PARTS:

Parts can be ordered either by mail or by telex. In both cases, correct part number has to be specified.
The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

### PARTS ORDERING

Parts may be ordered at the following addresses:

**AUSTRIA**
HORNYPHON
Vertriebsgesellschaft GmbH
Wienerbergstrasse 1
A 1101 Wien
Austria
Telex: 132.332

**BELGIUM**
SVD DIVISION MARANTZ
Industrialaan 1
1720 Groot-Bijgaarden
Belgium
Telex: 24466

**CHILE**
MARANTZ
DIVISION OF PHILIPS S.A.
AV. Santa Maria, 0760
Casilla 2687
Santiago
Telex: 240.239

**DENMARK**
MARANTZ
DIVISION OF PHILIPS
SERVICE A/S
Prags Boulevard 80
Postbox 1919
DK-2300 København S
Denmark
Telex: 31201

**FINLAND**
MARANTZ
DIVISION OF OY PHILIPS Ab
Kaivokatu 8
00100 Helsinki
Finland
Telex. 124811

**FRANCE**
MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France
Telex: 611651

**GERMANY**
MARANTZ GERMANY GmbH
Alexanderstrasse 1
2000 Hamburg
Germany

**THE NETHERLANDS**
Elpro Marantz
Wint Hontlaan 28
3526 KV Utrecht
The Netherlands
Telex: 4748

**NORWAY**
MARANTZ
DIVISION OF PHILIPS A/S
Sandstuveien 40
0680 Oslo 6
Norway
Telex: 72640

**GREAT BRITAIN**
MARANTZ AUDIO U.K. Ltd
Unit 15/16
Saxon Way Industrial Estate
Moor Lane
Harmondsworth UB7 OLW
Great Britain
Telex: 935196

**GREECE**
SHERTON ELECTRONICS S.A.
P.O.Box 21025
Hippocratus Street 188
Athens 11471
Greece
Telex: 216.795

**JAPAN**
MARANTZ JAPAN, Inc.
35-1, 7-chome, Sagamiono
Sagamihara-shi, Kanagawa
Japan

**KUWAIT**
AL ALAMIAH ELECTRONICS
Ussama Building
Fahd al Saleem Street
P.O.Box 23781
Safat-Kuwait
Telex: 22694

**ITALY**
MARANTZ ITALIANA S.P.A.
Via Chiese, 74
20126 Milano
Italy

**SAUDI ARABIA**
AL ALAMIAH ELECTRONICS
P.O.Box 5954
University Street
Riyadh 11432
Saudi Arabia
Telex: 401530

**SOUTH AFRICA**
MARANTZ
DIVISION OF PHILIPS S.A.
Main Road Martindale
P.O. Box. 58088
Newville 21114
South Africa

**SPAIN**
PHONO S.A.
Ignacio Iglesias 10
Badalona (Barcelona)
Spain
Telex: 59355

**SWEDEN**
MARANTZ
DIVISION OF PHILIPS
Försäljning AB
Tegeluddsvägen 1
S-115 84 Stockholm
Sweden
Telex: 14060

**SWITZERLAND**
MARANTZ
Technischer Service
Duenstrasse 3
3186 Düdingen
Switzerland

**TURKEY**
DOGRUOL Ltd.
I.M.C.
6 Blok N°6310
Unkapani
Istanbul
Turkey
Telex: 22085

**MALTA**
CACHIA & GALEA
Republic Street, 68D
Valetta
Telex: 1682

**PORTUGAL**
MARANTZ
Divisao philips S.A. service
Outurela-carnaxide
2795 LinDA-A-VELHA
Telex: 43906

**All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.**

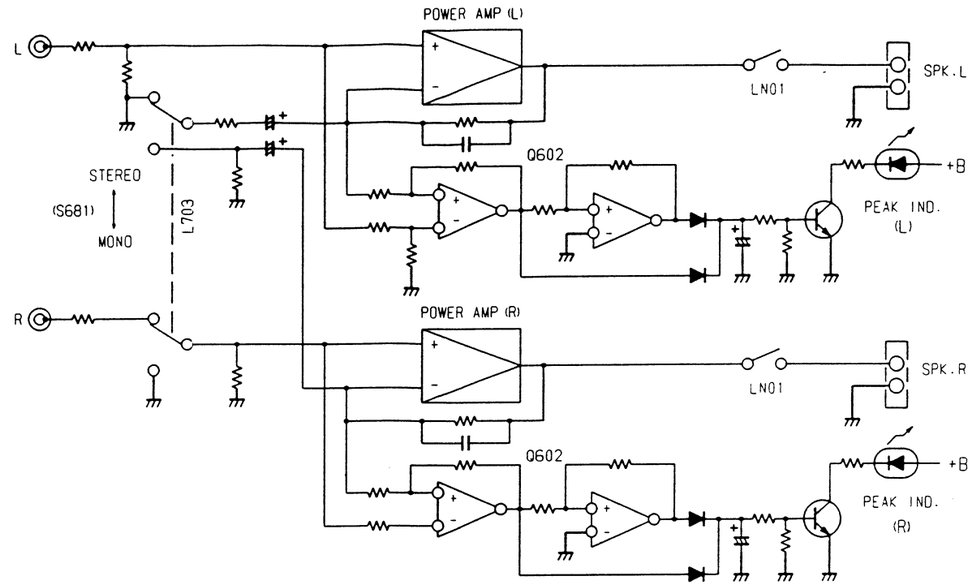
In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

## TECHNICAL SPECIFICATIONS (DIN)

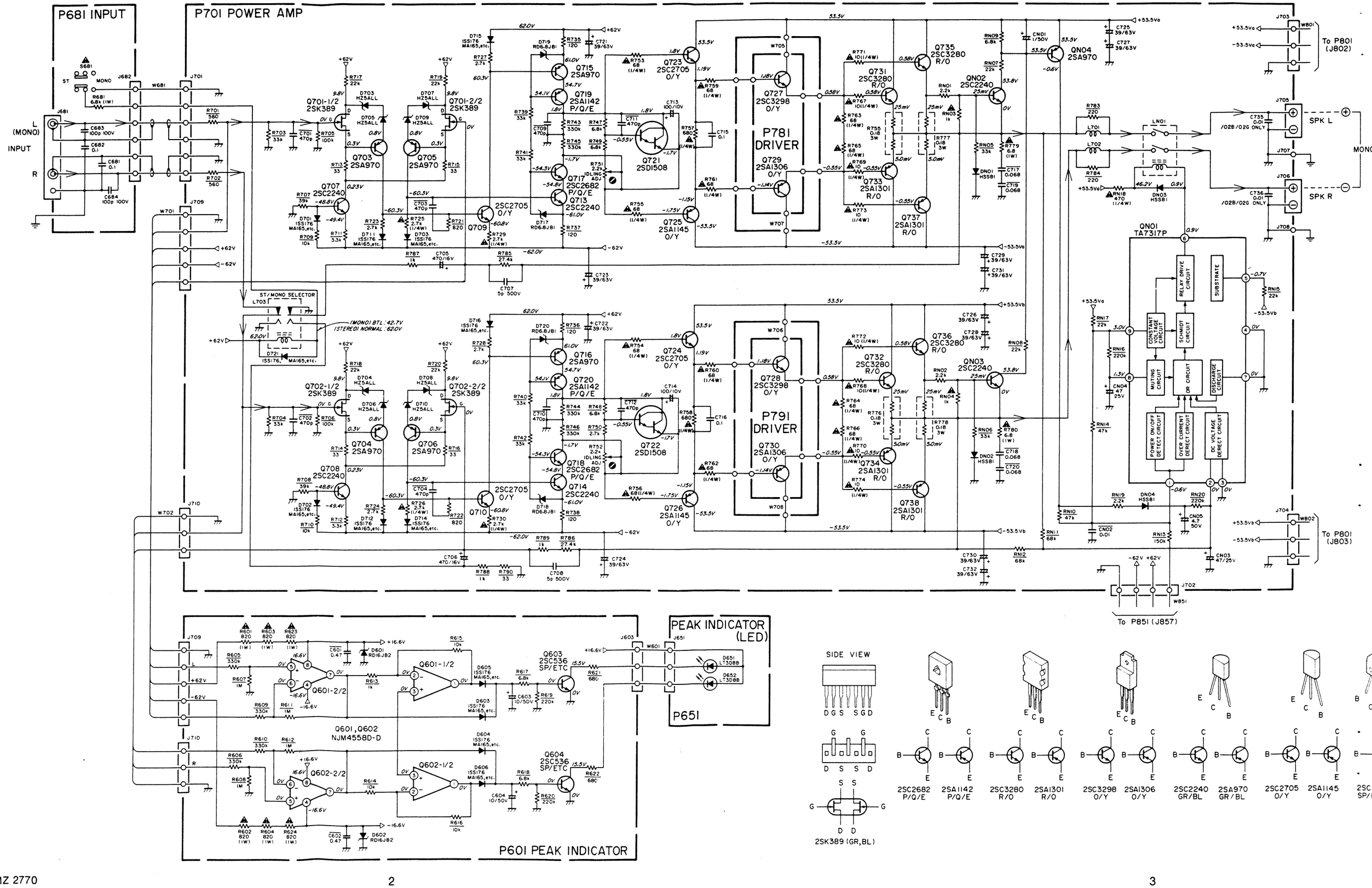
| | |
|---|---|
| Rated Power Output (20 Hz–20 kHz) | |
| 8 ohms RMS | 100 W × 2 |
| 4 ohms RMS | 150 W × 2 |
| 8 ohms (Mono) | 300 W × 1 |
| Dynamic Power (stereo) | |
| 8 ohms | 130 W × 2 |
| 4 ohms | 210 W × 2 |
| 2 ohms | 300 W × 2 |
| THD at Rated Power | |
| Stereo 8 ohms | 0.02% |
| 4 ohms | 0.03% |
| Mono 8 ohms | 0.03% |
| IMD at Rated Power (8 ohms) | 0.02% |
| Damping Factor (1 kHz) | 200 |
| Frequency Response (20 Hz–20 kHz) | ±0.2 dB |
| Power Bandwidth at 0.1% THD | 10 Hz–40 kHz |
| Input Sensitivity | 1 V |
| Input Impedance | 20k ohms |
| Channel Crosstalk (10 Hz–10 kHz) | 78 dB |
| S/N Ratio (A-weighted) | 121 dB |
| Power Consumption at max Power | 600 W |
| Dimensions | |
| Panel Width | 420 mm |
| Panel Height | 132 mm |
| Depth | 334 mm |
| Weight | |
| Unit alone | 13 kg |

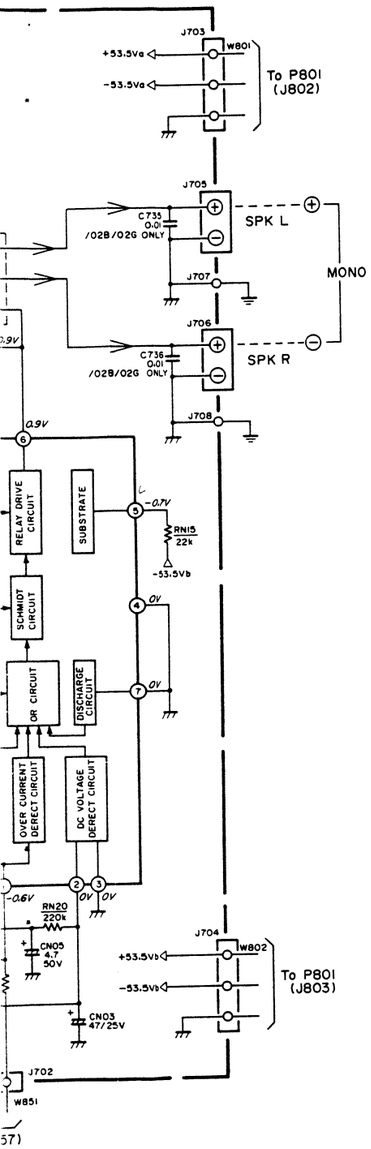
Specifications subject to change without prior notice.

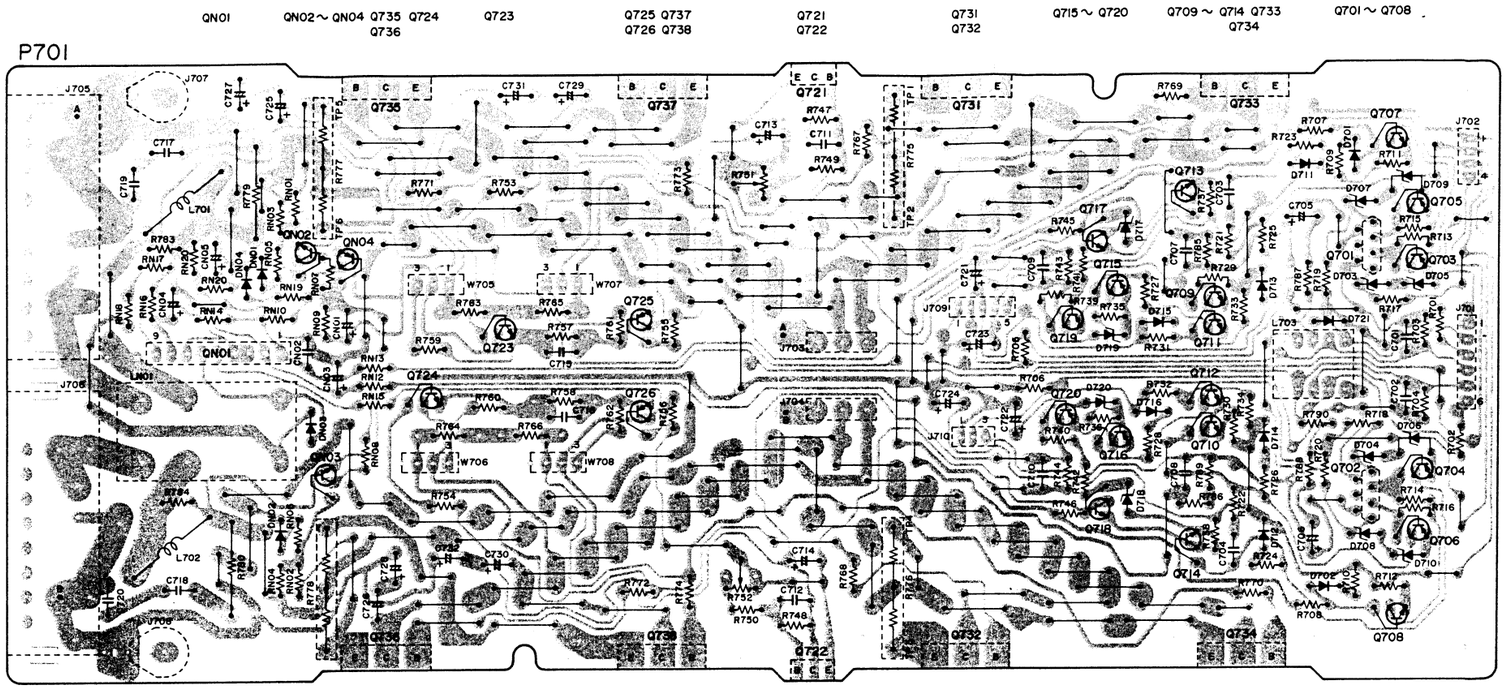
## 1. BLOCK DIAGRAM

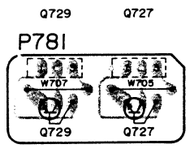


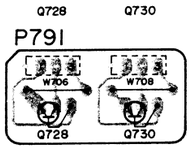
## 2. SCHEMATIC DIAGRAM AND PARTS LOCATION (Pattern Side)

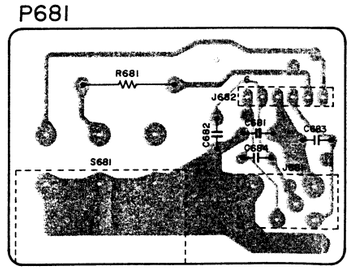


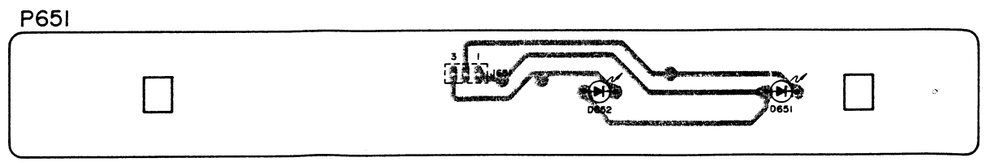

J703
W801
+53.5Va
-53.5Va
To P801 (J802)
J705
SPK L
C735 0.01 /02B/02G ONLY
J707
MONO
J706
SPK R
C736 0.01 /02B/02G ONLY
J708
0.9V
RELAY DRIVE CIRCUIT
SUBSTRATE
-0.7V
RN15 22k
-53.5Vb
SCHMIOT CIRCUIT
0V
OR CIRCUIT
DISCHARGE CIRCUIT
OVER CURRENT DERECT CIRCUIT
DC VOLTAGE DERECT CIRCUIT
-0.6V
RN20 220k
CN05 4.7 50V
CN03 47/25V
J704
W802
+53.5Vb
-53.5Vb
To P801 (J803)
J702
W851
TOP VIEW
NJM4558D-D
SIDE VIEW
TA7317P
E C B
2SC2240 GR/BL
2SA970 GR/BL
2SC2705 O/Y
2SA1145 O/Y
2SC536 SP/ETC
2SD1508

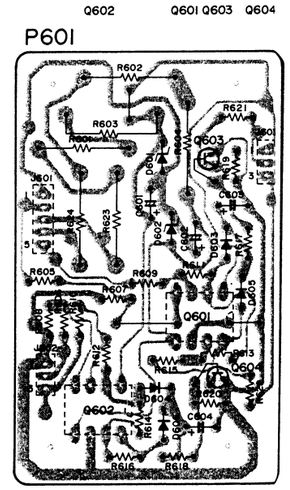

QN01
QN02～QN04 Q735 Q724 Q736
Q723
Q725 Q737 Q726 Q738
Q721 Q722
Q731 Q732
Q715～Q720
Q709～Q714 Q733 Q734
Q701～Q708
P701
J705
J707
J706
J708
J709
J710
J703
J704
J702
W705
W706
W707
W708
L701
L702
L703
Q735
Q736
Q737
Q738
Q721
Q722
Q731
Q732
Q733
Q734
Q723
Q724
Q725
Q726
Q727
Q728
Q729
Q730
Q715
Q716
Q717
Q718
Q719
Q720
Q709
Q710
Q711
Q712
Q713
Q714
Q701
Q702
Q703
Q704
Q705
Q706
Q707
Q708

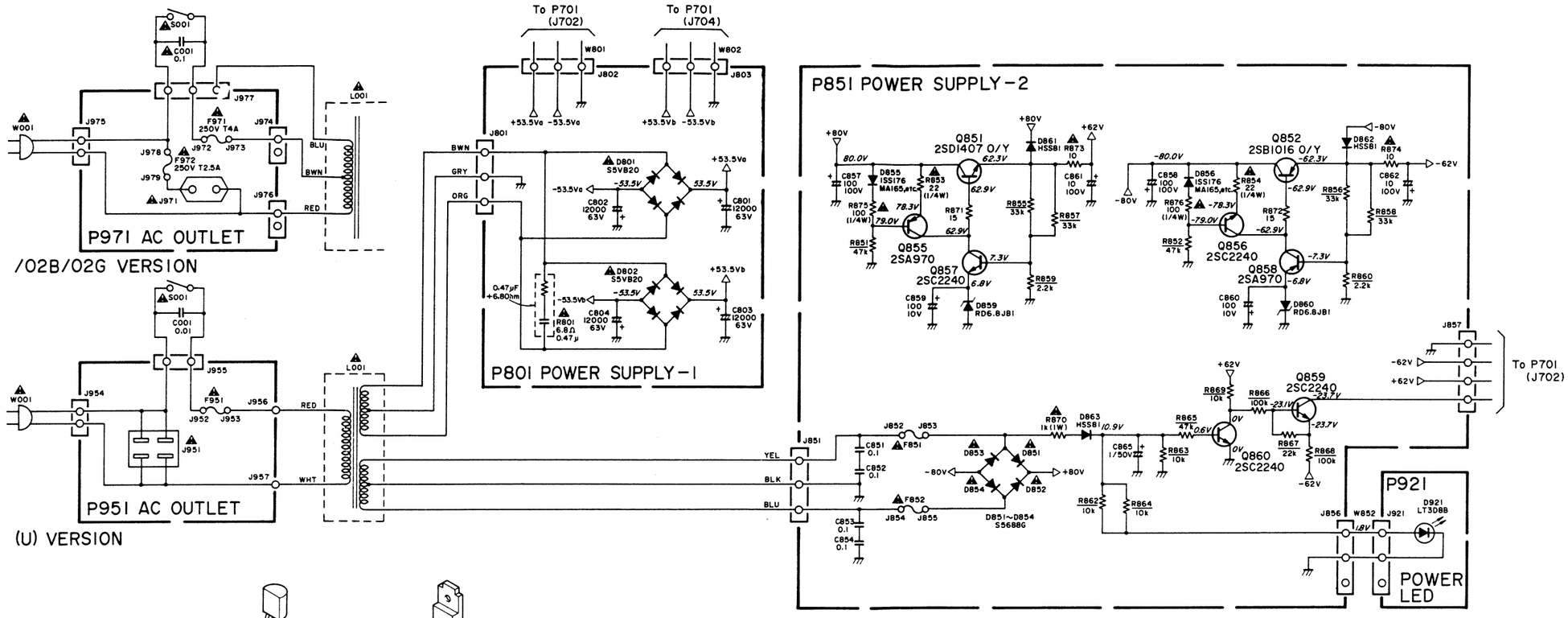

Q729
Q727
P781
W707
W705
Q729
Q727


Q728
Q730
P791
W706
W708
Q728
Q730

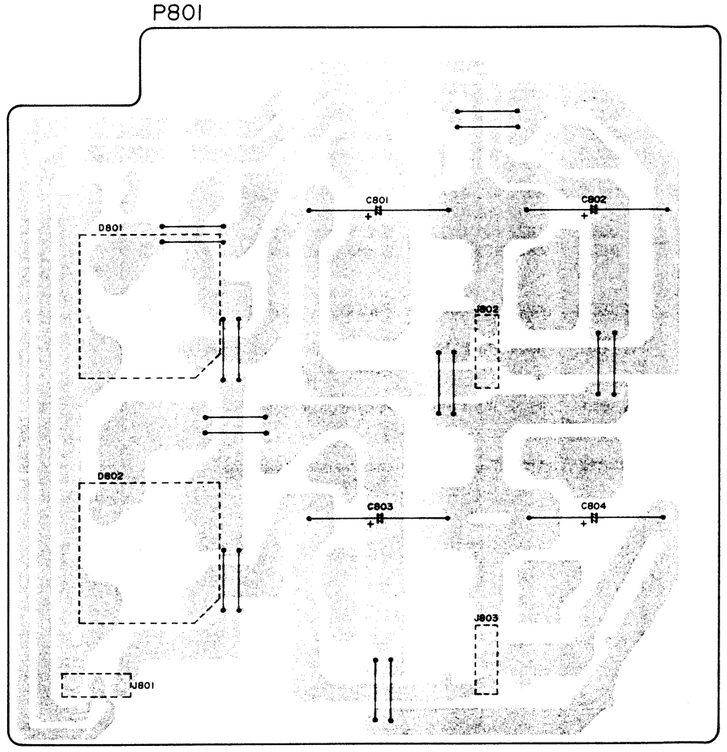

P681
R681
J682
S681


P651
D652
D651

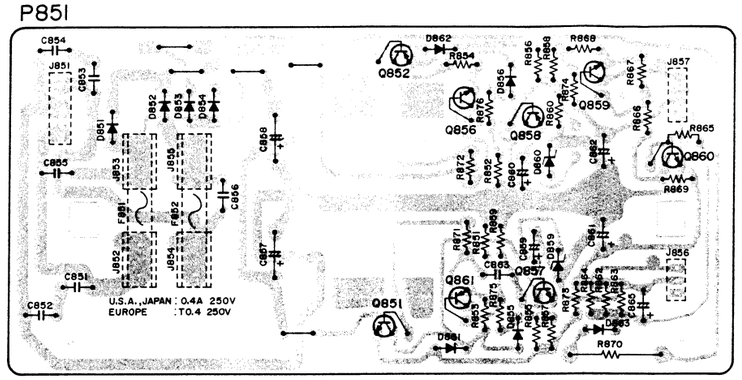

Q602
Q601 Q603
Q604
P601
Q601
Q602
Q603
Q604


P971 AC OUTLET
/02B/02G VERSION
P951 AC OUTLET
(U) VERSION
P801 POWER SUPPLY-1
To P701 (J702)
To P701 (J704)
P851 POWER SUPPLY-2
To P701 (J702)
P921
POWER LED
2SC2240
2SA970
2SD1407 O/Y
2SB1016 O/Y

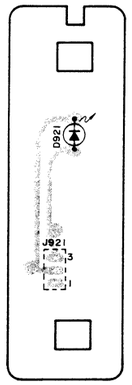
P801



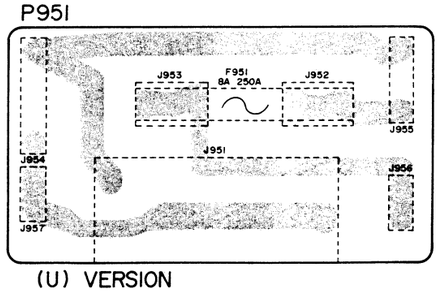

P851




P921

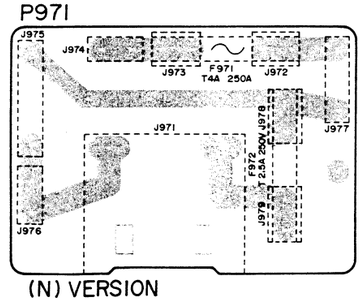



P951



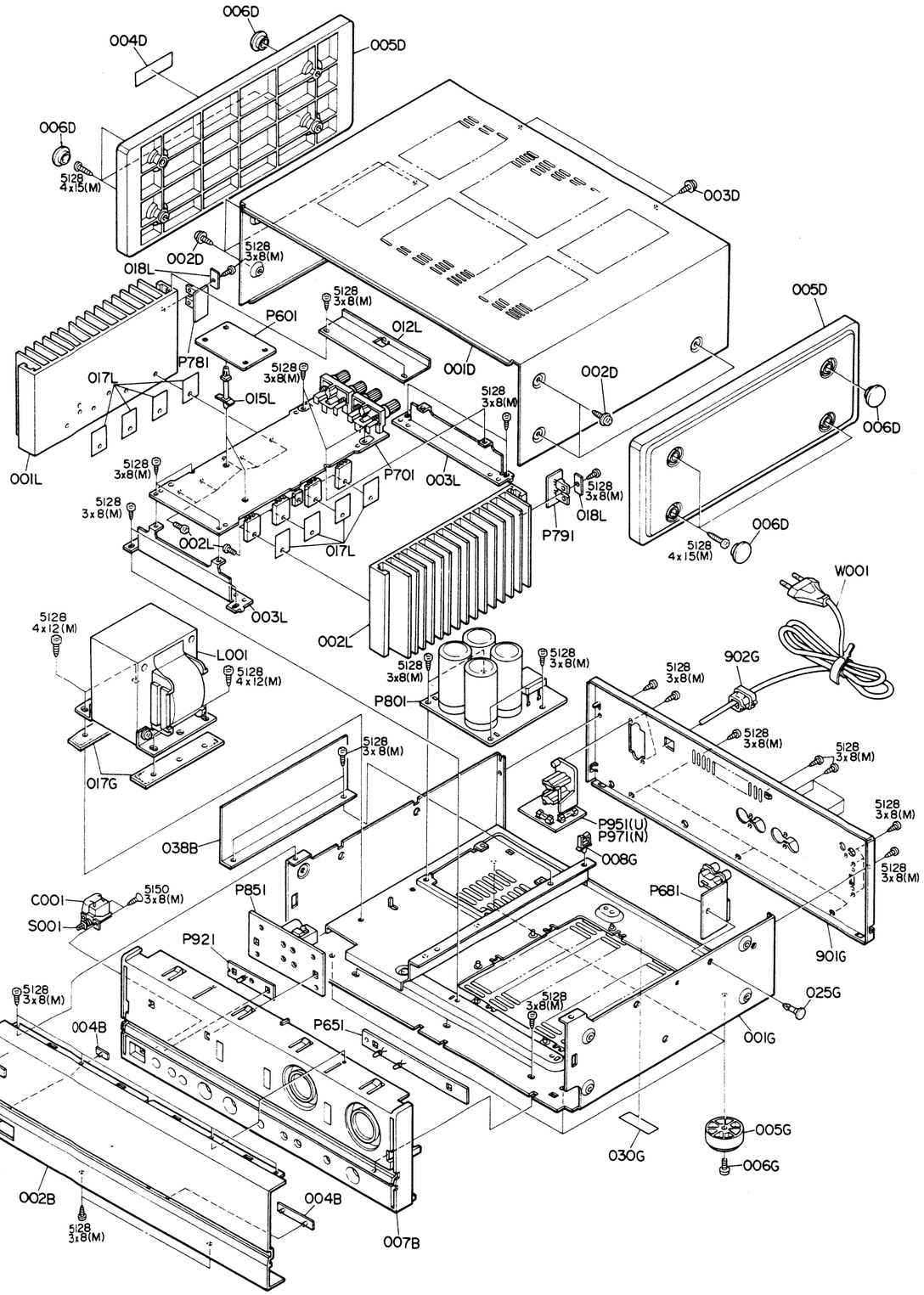

(U) VERSION

P971




(N) VERSION

## 3. EXPLODED VIEW AND PARTS LIST




| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| 002B | 4822 447 50127 | Front Panel (BLK) /02B |
| | 4822 447 50132 | Front Panel (GLD) /02G |
| | 4822 | Front Panel (BLK) [U] |
| 003B | 4822 454 11825 | Badge, MARANTZ (BLK) /02B |
| | 4822 459 10855 | Badge, MARANTZ (GLD) /02G |
| | 4822 454 40107 | Badge, PHILIPS [U] |
| 004B | 4822 381 11208 | Lens |
| 007B | 4822 464 90695 | Chassis, Front (BLK) [U], /02B |
| | 4822 447 50126 | Chassis, Front (GLD) /02G |
| 013B | 4822 410 60194 | Button, Power (BLK) [U], /02B |
| | 4822 410 60358 | Button, Power (GLD) /02G |
| 002D | 4822 501 11008 | B.T. Screw (W/W) B4 x 8 [U] |
| 003D | 4822 502 12511 | B.T. Screw (W/W) B3 x 8 |
| 005D | | Side Panel /02G |
| 006D | 4822 444 60607 | Cap, Side /02G |
| 005G | 4822 462 41477 | Leg, Gold /02B/02G |
| | 4822 462 41402 | Leg, Silver [U] |
| 006G | 4822 501 11008 | B.T. Screw (W/W) B4 x 8 |
| 902G | 4822 532 60948 | Bushing, AC Cord |
| ▲ C001 | 4822 121 43732 | Film Cap. 0.01μF 250V |
| ▲ L001 | 4822 146 21586 | Power Transformer /02B/02G |
| | | Power Transformer [U] |
| ▲ S001 | 4822 276 12647 | Push Switch, Power |
| 001T | 4822 736 20991 | User Manual /02B/02G |
| | | User Manual [U] |

## 4. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing.

| Item | Use |
|---|---|
| Distortion Analyzer | Distortion measurements |
| Audio Oscillator | Sinewave and squarewave signal source |
| ACVTVM | Voltage measurements (AC) |
| Oscilloscope | Waveform analysis and trouble shooting and ASO aignment |
| Circuit Tester | Trouble shooting |
| DCVTVM | Voltage measurements (DC) |
| AC Wattmeter | Monitors primary power to amplifier |
| Line Voltmeter | Monitors potential of primary power to amplifier |
| Variable Autotransformer | Adjust level of primery power to amplifier |
| Shorting Plug | Shorts amplifier input to eliminate noise pickup |

## 5. IDLING CURRENT ADJUSTMENT

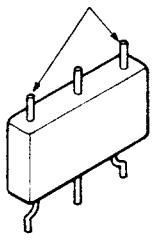
(1) Before switching the power ON, rotate the semi-fixed resisters R751 (Lch), R752 (Rch) on the PC board P701 to the center positions.
(2) Connect a digital voltmeter, set for the DC voltage input, to the pertinent test points (the marked ones of R775/R777: Lch, R776/778: Rch) on the PC board P701.
(3) After the completion of the above setup, switch the power ON and adjust the semi-fixed resisters R751 (Lch) and R752 (Rch) on the PC board P701 according to the reading of the digital voltmeter. The setting values are 12 mV (33 mA) of the both channels.

Please refer to the table and figure below.

Power ON

| Elapsed time after power ON | Idling current setting value |
|---|---|
| 30 sec.~ 1 min. | 5 mV |
| 1 min. ~ 2 min. | 6 mV |
| 2 min. ~ 5 min. | 7 mV |
| 5 min. ~ 12 min. | 10 mV |
| 12 min. ~ | 13 mV |

Measurement point



R751/R752

## ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R***: (1) GD05---140, Carbon film fixed resistor, ±5%, 1/4W
R***: (2) GD05---160, Carbon film fixed resistor, ±5%, 1/6W

① — Resistance value

Examples

① Resistance value

| | | | |
|---|---|---|---|
| 0.1Ω...001 | 10Ω...100 | 1kΩ...102 | 100kΩ...104 |
| 0.5Ω...005 | 18Ω...180 | 2.7kΩ...272 | 680kΩ...684 |
| 1Ω...010 | 100Ω...101 | 10kΩ...103 | 1MΩ...105 |
| 6.8Ω...068 | 390Ω...391 | 22kΩ...223 | 4.7MΩ...475 |

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

C***: CERAMIC CAP.

(1) DD1---370, Ceramic condenser
Disc type
①② Temp. coeff. P350 ~ N1000, 50V

②—Capacity value
①—Tolerance

Examples

① Tolerance (Capacity deviation)
±0.25pF...0
±0.5pF...1
±5%...5

* Tolerance of COMMON PARTS handled here are as follows:
0.5pF ~ 5pF...±0.25pF
6pF ~ 10pF...±0.5pF
12pF ~ 560pF...±5%

② Capacity value

| | | |
|---|---|---|
| 0.5pF...005 | 3pF...030 | 100pF...101 |
| 1pF...010 | 10pF...100 | 220pF...221 |
| 1.5pF...015 | 47pF...470 | 560pF...561 |

C***: CERAMIC CAP.

(1) DK16---300, High dielectric constant ceramic condenser
Disc type
① Temp. chara. 2B4, 50V

Capacity value

Example

② Capacity value

| | | |
|---|---|---|
| 100pF...101 | 1000pF...102 | 10000pF...103 |
| 470pF...471 | 2200pF...222 | |

C***: ELECTROLY CAP. ( ⇄ ), FILM CAP. ( ⇌ )

(1) EA---10, Electrolytic condenser
①② One-way lead type, Tolerance ±20%

②—Dielectric strength
①—Capacity value

Examples

① Capacity value

| | | |
|---|---|---|
| 0.1μF...104 | 4.7μF...475 | 100μF...107 |
| 0.33μF...334 | 10μF...106 | 330μF...337 |
| 1μF...105 | 22μF...226 | 1100μF...108 |
| | | 2200μF...228 |

② Working voltage

| | | |
|---|---|---|
| 6.3V...006 | 25V...025 | |
| 10V...010 | 35V...035 | |
| 16V...016 | 50V...050 | |

(2) DF15---350, Plastic film condenser
One-way type, Mylar ±5% 50V
①

Capacity value

Examples

① Capacity value

| | |
|---|---|
| 0.001μF (1000pF)...102 | 0.1μF...104 |
| 0.0018μF...182 | 0.56μF...564 |
| 0.01μF...103 | 1μF...105 |
| 0.015μF...153 | |

# 6. ELECTRICAL PARTS LIST

| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| | | **P601-PEAK INDICATOR CIRCUIT BOARD** |
| | | **P601-CAPACITORS** |
| C603 | 4822 124 22571 | Elect 10μF 50V |
| C604 | 4822 124 22571 | Elect 10μF 50V |
| | | **P601-RESISTORS** |
| ▲R601 ~ ▲R604 | 5322 116 55263 | 820Ω ±5% 1W |
| ▲R623 | 5322 116 55263 | 820Ω ±5% 1W |
| ▲R624 | 5322 116 55263 | 820Ω ±5% 1W |
| | | **P601-SEMICONDUCTORS** |
| D601 | 4822 130 80498 | Zener RD16JB2/MTZJ16C |
| D602 | 4822 130 80498 | Zener RD16JB2/MTZJ16C |
| D603 ~ D606 | 4822 130 33305 | Diode 1SS176, etc. |
| Q601 | 4822 209 83631 | IC NJM4558DD |
| Q602 | 4822 209 83631 | IC NJM4558DD |
| Q603 | 4822 130 42298 | Transistor 2SC536SP, etc. |
| Q604 | 4822 130 42298 | Transistor 2SC536SP, etc. |
| | | **P651-PEAK INDICATOR (LED) CIRCUIT BOARD** |
| D651 | 4822 130 80326 | L.E.D. LT3D8B RED 30 |
| D652 | 4822 130 80326 | L.E.D. LT3D8B RED 30 |
| | | **P681-INPUT CIRCUIT BOARD** |
| C681 | 4822 122 40617 | Ceramic Cap. 0.1μF +80% −20% |
| C682 | 4822 122 40617 | Ceramic Cap. 0.1μF +80% −20% |
| C683 | 4822 121 42712 | Film Cap. 100pF ±5% |
| C684 | 4822 121 42712 | Film Cap. 100pF ±5% |
| R681 | 4822 053 10682 | Resistor 6.8KΩ ±5% 1W |
| J681 | 4822 266 30282 | Terminal, 2P RCA |
| S681 | 4822 277 21465 | Slide Switch, MONO/STEREO |
| | | **P701-POWER AMP CIRCUIT BOARD** |
| | | **P701-CAPACITORS** |
| CN01 | 4822 124 41543 | Elect 1μF 50V |
| CN03 | 4822 124 22698 | Elect 47μF 25V |
| CN04 | 4822 124 22698 | Elect 47μF 25V |
| CN05 | 4822 124 22274 | Elect 4.7μF 50V |
| C701 ~ C704 | 4822 121 42327 | Film 470pF ±5% |
| C705 | 4822 124 23522 | Elect 470μF 16V |
| C706 | 4822 124 23522 | Elect 470μF 16V |
| C707 | 4822 123 30093 | Mica 5pF ±0.5pF |
| C708 | 4822 123 30093 | Mica 5pF ±0.5pF |
| C709 ~ C712 | 4822 121 42327 | Film 470pF ±5% |

| REF. DESIG. | PART NO. | DESCRIPTION | | |
|---|---|---|---|---|
| C713 | 4822 124 23516 | Elect | 100μF | 10V |
| C714 | 4822 124 23516 | Elect | 100μF | 10V |
| C715 | 4822 122 40617 | Ceramic | 0.1μF | +80% −20% |
| C716 | 4822 122 40617 | Ceramic | 0.1μF | +80% −20% |
| C721 ~ C732 | 4822 124 23508 | Elect | 39μF | 63V |
| | | **P701-RESISTORS** | | |
| RN01 | 4822 050 22202 | 2.2KΩ | ±5% | 1/6W |
| RN02 | 4822 050 22202 | 2.2KΩ | ±5% | 1/6W |
| ▲ RN03 | 4822 111 91257 | 1KΩ | ±5% | 1/6W |
| ▲ RN04 | 4822 111 91257 | 1KΩ | ±5% | 1/6W |
| ▲ RN18 | 4822 116 82733 | 470Ω | ±2% | ¼W, Fuse |
| ▲ R725 | | 2.7KΩ | ±5% | ¼W, Fusible |
| ▲ R726 | | 2.7KΩ | ±5% | ¼W, Fusible |
| ▲ R729 | | 2.7KΩ | ±5% | ¼W, Fusible |
| ▲ R730 | | 2.7KΩ | ±5% | ¼W, Fusible |
| R751 | 4822 100 20681 | 2.2KΩ, Trimming | | |
| R752 | 4822 100 20681 | 2.2KΩ, Trimming | | |
| ▲ R753 ~ ▲ R756 | 4822 115 90314 | 68Ω | ±2% | ¼W, Fuse |
| ▲ R757 | 4822 116 82608 | 680Ω | ±2% | ¼W, Fuse |
| ▲ R758 | 4822 116 82608 | 680Ω | ±2% | ¼W, Fuse |
| ▲ R759 ~ ▲ R766 | 4822 115 90314 | 68Ω | ±2% | ¼W, Fuse |
| ▲ R767 ~ ▲ R774 | 4822 115 90166 | 10Ω | ±2% | ¼W, Fuse |
| R775 ~ R778 | 4822 116 82049 | 0.18Ω×2 | | 3W |
| ▲ R779 | 4822 116 82626 | 6.8Ω | ±5% | 1W |
| ▲ R780 | 4822 116 82626 | 6.8Ω | ±5% | 1W |
| | | **P701-SEMICONDUCTORS** | | |
| DN01 ~ DN04 | 4822 130 80837 | Diode | HSS81DC | |
| D701 | 4822 130 33305 | Diode | 1SS176, etc. | |
| D702 | 4822 130 33305 | Diode | 1SS176, etc. | |
| D703 ~ D710 | 4822 130 81052 | Zener | HZ5ALL | |
| D711 ~ D716 | 4822 130 33305 | Diode | 1SS176, etc. | |
| D717 ~ D720 | 4822 130 82363 | Zener | RD6.8JB1 | |
| D721 | 4822 130 33305 | Diode | 1SS176, etc. | |
| QN01 | 4822 209 83312 | IC | TA7317P | |
| QN02 | 4822 130 43233 | Transistor | 2SC2240(GR, BL) | |
| QN03 | 4822 130 43233 | Transistor | 2SC2240(GR, BL) | |
| QN04 | 4822 130 42951 | Transistor | 2SA970(GR, BL) | |
| Q701 | 4822 130 42843 | F.E.T. | 2SK389(GR, BL) | |
| Q702 | 4822 130 42843 | F.E.T. | 2SK389(GR, BL) | |
| Q703 | 4822 130 42951 | Transistor | 2SA970(GR, BL) | |
| Q706 | | | | |
| Q707 | 4822 130 43233 | Transistor | 2SC2240(GR, BL) | |
| Q708 | 4822 130 43233 | Transistor | 2SC2240(GR, BL) | |
| Q709 | 4822 130 43283 | Transistor | 2SC2705(O, Y) | |
| Q710 | 4822 130 43283 | Transistor | 2SC2705(O, Y) | |
| Q713 | 4822 130 43233 | Transistor | 2SC2240(GR, BL) | |

| REF. DESIG. | PART NO. | DESCRIPTION | |
|---|---|---|---|
| Q714 | 4822 130 43233 | Transistor | 2SC2240(GR, BL) |
| Q715 | 4822 130 42951 | Transistor | 2SA970(GR, BL) |
| Q716 | 4822 130 42951 | Transistor | 2SA970(GR, BL) |
| Q717 | 4822 130 61204 | Transistor | 2SC2682(P, Q, E) |
| Q718 | 4822 130 61204 | Transistor | 2SC2682(P, Q, E) |
| Q719 | 4822 130 42997 | Transistor | 2SA1142(P, Q, E) |
| Q720 | 4822 130 42997 | Transistor | 2SA1142(P, Q, E) |
| Q721 | 4822 130 60526 | Transistor | 2SD1508 |
| Q722 | 4822 209 60526 | Transistor | 2SD1508 |
| Q723 | 4822 130 43283 | Transistor | 2SC2705(O, Y) |
| Q724 | 4822 130 43283 | Transistor | 2SC2705(O, Y) |
| Q725 | 4822 130 42999 | Transistor | 2SA1145(O, Y) |
| Q726 | 4822 130 42999 | Transistor | 2SA1145(O, Y) |
| Q731 | 4822 130 60116 | Transistor | 2SC3280(R, O) |
| Q732 | 4822 130 60116 | Transistor | 2SC3280(R, O) |
| Q733 | 4822 130 60109 | Transistor | 2SA1301(R, O) |
| Q734 | 4822 130 60109 | Transistor | 2SA1301(R, O) |
| Q735 | 4822 130 60116 | Transistor | 2SC3280(R, O) |
| Q736 | 4822 130 60116 | Transistor | 2SC3280(R, O) |
| Q737 | 4822 130 60109 | Transistor | 2SA1301(R, O) |
| Q736 | 4822 130 60109 | Transistor | 2SA1301(R, O) |
| | | **P701-MISCELLANEOUS** | |
| J705 | 4822 290 81364 | Terminal, Speaker [U] | |
| | 4822 290 81374 | Terminal, Speaker /02B/02G | |
| J706 | 4822 290 81363 | Terminal, Speaker [U] | |
| | 4822 290 81373 | Terminal, Speaker /02B/02G | |
| LN01 | 4822 280 20201 | Relay | |
| L701 | 4822 157 51739 | Coil, Speaker | |
| L702 | 4822 157 51739 | Coil, Speaker | |
| L703 | 4822 281 50153 | Relay | |
| | | **P781-DRIVER TR(L) CIRCUIT BOARD** | |
| Q727 | 4822 130 43311 | Transistor | 2SC3298(O, Y) |
| Q729 | 4822 130 43023 | Transistor | 2SA1306(O, Y) |
| | | **P791-DRIVER TR(R) CIRCUIT BOARD** | |
| Q728 | 4822 130 43311 | Transistor | 2SC3298(O, Y) |
| Q730 | 4822 130 43023 | Transistor | 2SA1306(O, Y) |
| | | **P801-POWER SUPPLY-1 CIRCUIT BOARD** | |
| | | **P801-CAPACITORS** | |
| C801 ~ C804 | 4822 124 23507 | Elect | 12000μF 63V |
| C805 | 4822 122 33895 | Ceramic | 1μF +80% −20% |
| | | **P801-RESISTORS** | |
| ▲ R801 | 4822 | 6.8Ω +0.47μF | |
| | | **P801-SEMICONDUCTORS** | |
| ▲ D801 | 4822 130 30984 | Diode | S5V32O |
| ▲ D802 | 4822 130 30984 | Diode | S5V32O |

| REF. DESIG. | PART NO. | DESCRIPTION |
|---|---|---|
| | | **P851-POWER SUPPLY-2 CIRCUIT BOARD** |
| | | **P851-CAPACITORS** |
| C851 ~ C854 | 4822 122 40617 | Ceramic 0.1μF +80% −20% |
| C857 | | Elect 100μF 100V |
| C858 | | Elect 100μF 100V |
| C859 | 4822 124 23516 | Elect 100μF 10V |
| C860 | 4822 124 23516 | Elect 100μF 10V |
| C861 | 4822 124 | Elect 10μF 100V |
| C862 | 4822 124 | Elect 10μF 100V |
| C865 | 4822 124 41543 | Elect 1μF 50V |
| | | **P851-RESISTORS** |
| ▲ R853 | | 22Ω ±2% ¼W, Fusible |
| ▲ R854 | | 22Ω ±2% ¼W, Fusible |
| ▲ R870 | 4822 116 60331 | 1KΩ ±5% 1W |
| R871 | 4822 116 82732 | 15Ω ±5% 1/6W |
| R872 | 4822 116 82732 | 15Ω ±5% 1/6W |
| ▲ R873 | 4822 115 90166 | 10Ω ±2% ¼W, Fuse |
| ▲ R874 | 4822 115 90166 | 10Ω ±2% ¼W, Fuse |
| ▲ R875 | | 100Ω ±2% ¼W, Fusible |
| ▲ R876 | | 100Ω ±2% ¼W, Fusible |
| | | **P851-SEMICONDUCTORS** |
| ▲ D851 ~ ▲ D854 | 4822 130 80839 | Diode S5688G |
| D855 | 4822 130 33305 | Diode 1SS176, etc. |
| D856 | 4822 130 33305 | Diode 1SS176, etc. |
| D859 | 4822 130 82363 | Zener RD6.8JB1 |
| D860 | 4822 130 82363 | Zener RD6.8JB1 |
| D861 | 4822 130 80837 | Diode HSS81TD |
| D862 | 4822 130 80837 | Diode HSS81TD |
| D863 | 4822 130 80837 | Diode HSS81TD |
| Q851 | 4822 130 | Transistor 2SD1407(O, Y) |
| Q852 | 4822 130 | Transistor 2SB1061(O, Y) |
| Q855 | 4822 130 42951 | Transistor 2SA970(GR, BL) |
| Q856 | 4822 130 43233 | Transistor 2SC2240(GR, BL) |
| Q857 | 4822 130 43233 | Transistor 2SC2240(GR, BL) |
| Q858 | 4822 130 42951 | Transistor 2SA970(GR, BL) |
| Q859 | 4822 130 43233 | Transistor 2SC2240(GR, BL) |
| Q860 | 4822 130 43233 | Transistor 2SC2240(GR, BL) |
| | | **P851-MISCELLANEOUS** |
| ▲ F851 | 4822 253 30354 | Fuse 400mA 250V /02B/02G |
| | 4822 | Fuse 630mA 250V [U] |
| ▲ F852 | 4822 253 30354 | Fuse 400mA 250V /02B/02G |
| | | Fuse 630mA 250V [U] |
| | | **P921-POWER LED CIRCUIT BOARD** |
| D921 | 4822 130 80326 | L.E.D. LT3D8B RED 30 |

| REF. DESIG. | PART NQ. | DESCRIPTION |
|---|---|---|
| | | **P951-AC OUTLET CIRCUIT BOARD [U]** |
| ▲ F951 | | Fuse 8A 250V [U] |
| ▲ J951 | | Jack, AC Outlet [U] |
| J952 | 4822 256 30285 | Jack, Fuse Clip [U] |
| J953 | 4822 256 30285 | Jack, Fuse Clip [U] |
| | | **P971-AC OUTLET CIRCUIT BOARD /02B/02G** |
| ▲ F971 | 4822 253 30199 | Fuse 4A 250V /02B/02G |
| ▲ F972 | 4822 253 40166 | Fuse T2.5A 250V /02B/02G |
| ▲ J971 | 4822 267 31194 | Jack, AC Autlet /02B/02G |

NOTE ON SAFETY:
Symbol ▲ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ▲ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.